

Date of Deposit: April 3, 2007

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Appln. of: NGUYEN et al.

Appln. No.: 10/577,175

Filed: April 26, 2006

For: METHOD FOR SELF-SUPPORTED TRANSFER OF A FINE LAYER BY PULSATION AFTER IMPLANTATION OR CO-IMPLANTATION

Examiner: TBA

Art Unit: TBA

Attorney Docket No: 9905/40 (BIF116533/US)

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Mail Stop Missing Parts  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In accordance with the duty of disclosure under 37 C.F.R. §1.56 and §§1.97-1.98, and more particularly in accordance with 37 C.F.R. §1.97(b), Applicants hereby cite the following reference(s):

**U.S. PATENTS**

<u>Patent No.</u>	<u>Date</u>	<u>Inventor</u>
4,028,149	6/7/1977	Deines et al.
4,254,590	3/10/1981	Eisele et al.
5,242,863	9/7/1993	Xiang-Zheng et al.
5,300,788	4/5/1994	Fan et al.
5,374,564	12/20/1994	Bruel
5,400,458	3/28/1995	Rambosek
5,405,802	4/11/1995	Yamagata et al.
5,559,043	9/24/1996	Bruel
5,811,348	9/22/1998	Matushita et al.
5,854,123	12/29/1998	Sato et al.
5,877,070	3/2/1999	Goesele et al.
5,909,627	6/1/1999	Egloff
5,920,764	7/6/1999	Hanson et al.
5,953,622	9/14/1999	Lee et al.

<u>Patent No.</u>	<u>Date</u>	<u>Inventor</u>
5,966,620	10/12/1999	Sakaguchi et al.
5,993,677	11/30/1999	Biasse et al.
5,994,207	11/30/1999	Henley et al.
6,013,563	1/11/2000	Henley et al.
6,048,411	4/11/2000	Henley et al.
6,054,370	4/25/2000	Doyle
6,071,795	6/6/2000	Cheung et al.
6,103,597	8/15/2000	Aspar et al.
6,103,599	8/15/2000	Henley et al.
6,127,199	10/3/2000	Inoue
6,146,979	11/14/2000	Henley et al.
6,150,239	11/21/2000	Goesele et al.
6,190,998	2/20/2001	Bruel et al.
6,225,190	5/1/2001	Bruel et al.
6,271,101	8/7/2001	Fukunaga
6,303,468	10/16/2001	Aspar et al.
6,323,108	11/27/2001	Kub et al.
6,323,109	11/27/2001	Okonogi
6,346,458	2/12/2002	Bower
6,513,564	2/4/2003	Bryan et al.
6,534,380	3/18/2003	Yamauchi et al.
6,607,969	8/19/2003	Kub et al.
6,727,549	4/27/2004	Doyle
6,756,286	6/29/2004	Moriceau et al.
6,770,507	8/3/2004	Abe et al.
6,946,365	9/20/2005	Aspar et al.
2002/0153563	10/24/2002	Ogura
2002/0185684	12/12/2002	Campbell et al.
2003/0162367	8/28/2003	Roche
2003/0199105	10/23/2003	Kub et al.

**FOREIGN PATENT DOCUMENTS**

<u>Document No.</u>	<u>Date</u>	<u>Country</u>
EP 0 410 679 A1	1/30/1991	Europe
EP 0 533 551 B1	3/9/2000	Europe
EP 0 717 437 B1	4/24/2002	Europe
EP 0 767 486 B1	1/2/2004	Europe
EP 0 786 801A1	6/18/2003	Europe
EP 0 793 263 A2	9/3/1997	Europe

<u>Document No.</u>	<u>Date</u>	<u>Country</u>
EP 0 801 419 A1	10/15/1997	Europe
EP 0 807 970 A1	11/19/1997	Europe
EP 0 902 843 B1	3/29/2000	Europe
EP 0 917 193 A1	5/19/1999	Europe
EP 0 925 888 B1	11/10/2004	Europe
EP 0 938 129 A1	8/25/1999	Europe
EP 1 014 452 B1	5/3/2006	Europe
EP 1 050 901 A2	11/8/2000	Europe
FR 2 681 472 A1	3/19/1993	France
FR 2 748 850 A1	11/21/1997	France
FR 2 748 851	11/21/1997	France
FR 2 758 907 A1	7/31/1998	France
FR 2 773 261	7/2/1999	France
FR 2 774 510 A1	8/6/1999	France
FR 2 781 925 A1	2/4/2000	France
FR 2 796 491	1/19/01	France
FR 2 797 347	2/9/2001	France
FR 2 809 867	12/7/2001	France
JP 62265717	11/18/1987	Japan
JP 101004013	1/9/1989	Japan
JP 07-254690	10/3/1995	Japan
JP 7-302889	11/14/1995	Japan
JP 09-213594	8/15/1997	Japan
JP 09-307719	11/28/1997	Japan
JP 11045862	2/16/1999	Japan
JP 11074208	3/16/1999	Japan
JP 11-87668	3/30/1999	Japan
JP 11-145436	5/28/1999	Japan
JP 11-233449	8/27/1999	Japan
WO 99/08316	2/18/1999	WIPO
WO 99/35674 A1	7/15/1999	WIPO
WO 99/39378	8/5/1999	WIPO
WO 00/48238	8/17/2000	WIPO
WO 01/11930A2	2/15/2001	WIPO
WO 02/47156 A1	6/13/2002	WIPO

**OTHER DOCUMENTS**

Bruel et al., [Vol. 99-1] Meeting Abstract No. 333, "Single-crystal semiconductor layer delamination and transfer through hydrogen implantation," *The 195th Meeting of The Electrochemical Society*, May 2-6, 1999, Seattle, Washington

Camperi-Ginestet et al., "Alignable Epitaxial Liftoff of GaAs Materials with Selective Deposition Using Polyimide Diaphragms", *IEEE Transactions Photonics Technology Letters*, Vol. 3, No. 12, December 1991, pp. 1123-1126

Demeester, et al., "Epitaxial Lift-off and its Applications", *Semicond. Sci. Technol.*, Vol. 8, 1993, pp. 1124-1135

DiCioccio et al., "III-V layer transfer onto silicon and applications", *Phys. Stat. Sol. (a)*, Vol. 202, No. 4., 2005, pp. 509-515/DOI 10.1002/pssa. 200460411

Feijoo et al., "Prestressing of Bonded Wafers", Vol. 92-7 1992 pp. 230-238

Feng et al., "Generalized Formula for Curvature Radius and Layer Stresses Caused by Thermal Strain in Semiconductor Multilayer Structures", *J. Appl. Phys.*, Vol. 54, No. 1, 1983, pp. 83-85

Hamaguchi, et al., "Novel LSI/SOI Wafer Fabrication Using Device Layer Transfer Technique" *Proc. IEDM*, 1985, pp. 688-691

Kucheyev et al., "Ion implantation into GaN", *Materials Science and Engineering*, 33, 2001, pp. 51-107

Liu et al., "Ion implantation in GaN at liquid-nitrogen temperature: Structural characteristics and amorphization," *Physical Review B of The American Physical Society*, Vol. 57, No. 4, 1988, pp. 2530-2535

Moriceau et al., [Vol. 99-1] Meeting Abstract No. 405, "A New Characterization Process Used to Qualify SOI Films," *The 195th Meeting of The Electrochemical Society*, May 2-6, 1999, Seattle, Washington

Pollentier et al., "Fabrication of High-Radiance LEDs by Epitaxial Lift-off" *SPIE*, Vol. 1361, 1990, pp. 1056-1062

Suzuki et al., "High-Speed and Low Power  $n^+ - p^+$  Double-Gate SOI CMOS", *IEICE Trans. Electron.*, Vol. E78-C, No. 4, April 1995, pp. 360-367

Timoshenko, S., "Analysis of Bi-Metal Thermostats", *J.Opt.Soc.Am.*, 11, 1925, pp. 233-256

Tong et al, "Low Temperature SI Layer Splitting", *Proceedings 1997 IEEE International SOI Conference*, Oct. 1997, pgs. 126-127

Wong et al., "Integration of GaN Thin Films with Dissimilar Substrate Materials by Pd-In Metal Bonding and Laser Lift-off", *Journal of Electronic Materials*, Vol. 28, No. 12, 1999, pp. 1409-1413

Yun et al., "Fractional Implantation Area Effects on Patterned Ion-Cut Silicon Layer Transfer," Dept. of Electrical Eng. And Computer Sciences, University of California, Berkeley, CA 94720, USA, 1999 IEEE International SOI Conference, Oct. 1999, pg. 129-30

Yun et al., "Thermal and Mechanical Separations of Silicon Layers from Hydrogen Pattern-Implanted Wafers," *Journal of Electronic Materials*, Vol. No. 36, No. 8 2001

Applicants are enclosing Form PTO-1449 (four sheets), along with a copy of each listed reference for which a copy is required under 37 C.F.R. §1.98(a)(2). As each of the listed references is in English, no further commentary is believed to be necessary, 37 C.F.R §1.98(a)(3). Applicants respectfully request the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

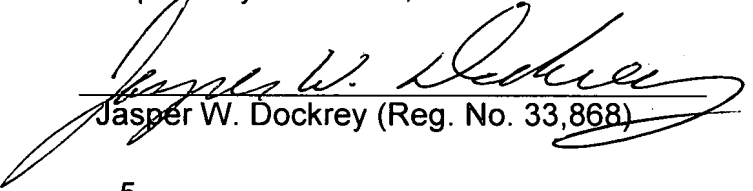
By submitting this Statement, Applicants are attempting to fully comply with the duty of candor and good faith mandated by 37 C.F.R. §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 C.F.R. §1.56(a).

Applicants have calculated no fee to be due in connection with the filing of this Statement. However, the Director is authorized to charge any fee deficiency associated with the filing of this Statement to a deposit account, as authorized in the Transmittal accompanying this Statement.

Respectfully submitted,

April 3, 2007

Date

  
Jasper W. Dockrey (Reg. No. 33,868)

FORM PTO-1449	SERIAL NO. 10/577,175	CASE NO. 9905/40
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE April 26, 2006	GROUP ART UNIT Unknown
(use several sheets if necessary)		APPLICANT(S): Nguyen et al.

**REFERENCE DESIGNATION                      U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	B1	4,028,149	6/7/1977	Deines et al.		
	B2	4,254,590	3/10/1981	Eisele et al.		
	B3	5,242,863	9/7/1993	Xiang-Zheng et al.		
	B4	5,300,788	4/5/1994	Fan et al.		
	B5	5,374,564	12/20/1994	Bruel		
	B6	5,400,458	3/28/1995	Rambosek		
	B7	5,405,802	4/11/1995	Yamagata et al.		
	B8	5,559,043	9/24/1996	Bruel		
	B9	5,811,348	9/22/1998	Matushita et al.		
	B10	5,854,123	12/29/1998	Sato et al.		
	B11	5,877,070	3/2/1999	Goesele et al.		
	B12	5,909,627	6/1/1999	Egloff		
	B13	5,920,764	7/6/1999	Hanson et al.		
	B14	5,953,622	9/14/1999	Lee et al.		
	B15	5,966,620	10/12/1999	Sakaguchi et al.		
	B16	5,993,677	11/30/1999	Biasse et al.		
	B17	5,994,207	11/30/1999	Henley et al.		
	B18	6,013,563	1/11/2000	Henley et al.		
	B19	6,048,411	4/11/2000	Henley et al.		
	B20	6,054,370	4/25/2000	Doyle		
	B21	6,071,795	6/6/2000	Cheung et al.		
	B22	6,103,597	8/15/2000	Aspar et al.		
	B23	6,103,599	8/15/2000	Henley et al.		
	B24	6,127,199	10/3/2000	Inoue		
	B25	6,146,979	11/14/2000	Henley et al.		
	B26	6,150,239	11/21/2000	Goesele et al.		
	B27	6,190,998	2/20/2001	Bruel et al.		
	B28	6,225,190	5/1/2001	Bruel et al.		
	B29	6,271,101	8/7/2001	Fukunaga		
	B30	6,303,468	10/16/2001	Aspar et al.		
	B31	6,323,108	11/27/2001	Kub et al.		
	B32	6,323,109	11/27/2001	Okonogi		
	B33	6,346,458	2/12/2002	Bower		
	B34	6,513,564	2/4/2003	Bryan et al.		
	B35	6,534,380	3/18/2003	Yamauchi et al.		
	B36	6,607,969	8/19/2003	Kub et al.		
	B37	6,727,549	4/27/2004	Doyle		

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	SERIAL NO. 10/577,175	CASE NO. 9905/40
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE April 26, 2006	GROUP ART UNIT Unknown
(use several sheets if necessary)		APPLICANT(S): Nguyen et al.

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	NAME	CLASS/ SUBCLASS	FILING DATE
	B38	6,756,286	6/29/2004	Moriceau et al.		
	B39	6,770,507	8/3/2004	Abe et al.		
	B40	6,946,365	9/20/2005	Aspar et al.		
	B41	2002/0153563	10/24/2002	Ogura		
	B42	2002/0185684	12/12/2002	Campbell et al.		
	B43	2003/0162367	8/28/2003	Roche		
	B44	2003/0199105	10/23/2003	Kub et al.		

**FOREIGN PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES OR NO
	B45	EP 0 410 679 A1	1/30/1991	Europe		
	B46	EP 0 533 551 B1	3/9/2000	Europe		Abstract
	B47	EP 0 717 437 B1	4/24/2002	Europe		
	B48	EP 0 767 486 B1	1/2/2004	Europe		
	B49	EP 0 786 801A1	6/18/2003	Europe		Abstract
	B50	EP 0 793 263 A2	9/3/1997	Europe		
	B51	EP 0 801 419 A1	10/15/1997	Europe		Abstract
	B52	EP 0 807 970 A1	11/19/1997	Europe		Abstract
	B53	EP 0 902 843 B1	3/29/2000	Europe		Abstract
	B54	EP 0 917 193 A1	5/19/1999	Europe		
	B55	EP 0 925 888 B1	11/10/2004	Europe		
	B56	EP 0 938 129 A1	8/25/1999	Europe		
	B57	EP 1 014 452 B1	5/3/2006	Europe		
	B58	EP 1 050 901 A2	11/8/2000	Europe		
	B59	FR 2 681 472 A1	3/19/1993	France		Abstract
	B60	FR 2 748 850 A1	11/21/1997	France		Abstract
	B61	FR 2 748 851	11/21/1997	France		Abstract
	B62	FR 2 758 907 A1	7/31/1998	France		Abstract
	B63	FR 2 773 261	7/2/1999	France		Abstract
	B64	FR 2 774 510 A1	8/6/1999	France		Abstract
	B65	FR 2 781 925 A1	2/4/2000	France		Abstract
	B66	FR 2 796 491	1/19/01	France		Abstract
	B67	FR 2 797 347	2/9/2001	France		Abstract
	B68	FR 2 809 867	12/7/2001	France		Abstract
	B69	JP 62265717	11/18/1987	Japan		Abstract
	B70	JP 101004013	1/9/1989	Japan		Abstract
	B71	JP 07-254690	10/3/1995	Japan		Abstract

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449	SERIAL NO. 10/577,175	CASE NO. 9905/40
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT	FILING DATE April 26, 2006	GROUP ART UNIT Unknown
(use several sheets if necessary)	APPLICANT(S): Nguyen et al.	

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER <small>Number-Kind Code (if known)</small>	DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES OR NO
	B72	JP 7-302889	11/14/1995	Japan		Abstract
	B73	JP 09-213594	8/15/1997	Japan		Abstract
	B74	JP 09-307719	11/28/1997	Japan		Abstract
	B75	JP 11045862	2/16/1999	Japan		Abstract
	B76	JP 11074208	3/16/1999	Japan		Abstract
	B77	JP 11-87668	3/30/1999	Japan		Abstract
	B78	JP 11-145436	5/28/1999	Japan		Abstract
	B79	JP 11-233449	8/27/1999	Japan		Abstract
	B80	WO 99/08316	2/18/1999	WIPO		Abstract
	B81	WO 99/35674 A1	7/15/1999	WIPO		Abstract
	B82	WO 99/39378	8/5/1999	WIPO		
	B83	WO 00/48238	8/17/2000	WIPO		Abstract
	B84	WO 01/11930A2	2/15/2001	WIPO		
	B85	WO 02/47156 A1	6/13/2002	WIPO		Abstract

EXAMINER INITIAL	OTHER ART – NON PATENT LITERATURE DOCUMENTS (Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date page(s), volume-issue number(s), publisher, city and/or country where published.	
	B86	Bruehl et al., [Vol. 99-1] Meeting Abstract No. 333, "Single-crystal semiconductor layer delamination and transfer through hydrogen implantation," <i>The 195th Meeting of The Electrochemical Society</i> , May 2-6, 1999, Seattle, Washington
	B87	Camperi-Ginestet et al., "Alignable Epitaxial Lift-off of GaAs Materials with Selective Deposition Using Polyimide Diaphragms", <i>IEEE Transactions Photonics Technology Letters</i> , Vol. 3, No. 12, December 1991, pp. 1123-1126
	B88	Demeester, et al., "Epitaxial Lift-off and its Applications", <i>Semicond. Sci. Technol.</i> , Vol. 8, 1993, pp. 1124-1135
	B89	DiCioccio et al., "III-V layer transfer onto silicon and applications", <i>Phys. Stat. Sol. (a)</i> , Vol. 202, No. 4., 2005, pp. 509-515/DOI 10.1002/pssa.200460411
	B90	Feijoo et al., "Prestressing of Bonded Wafers", Vol. 92-7 1992 pp. 230-238
	B91	Feng et al., "Generalized Formula for Curvature Radius and Layer Stresses Caused by Thermal Strain in Semiconductor Multilayer Structures", <i>J. Appl. Phys.</i> , Vol. 54, No. 1, 1983, pp. 83-85
	B92	Hamaguchi, et al., "Novel LSI/SOI Wafer Fabrication Using Device Layer Transfer Technique" <i>Proc. IEDM</i> , 1985, pp. 688-691
	B93	Kucheyev et al., "Ion implantation into GaN", <i>Materials Science and Engineering</i> , 33, 2001, pp. 51-107
	B94	Liu et al., "Ion implantation in GaN at liquid-nitrogen temperature: Structural characteristics and amorphization," <i>Physical Review B of The American Physical Society</i> , Vol. 57, No. 4, 1988, pp. 2530-2535
EXAMINER		DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



FORM PTO-1449	SERIAL NO. 10/577,175	CASE NO. 9905/40
<b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>	FILING DATE April 26, 2006	GROUP ART UNIT Unknown
(use several sheets if necessary)		APPLICANT(S): Nguyen et al.

EXAMINER INITIAL	OTHER ART – NON PATENT LITERATURE DOCUMENTS (Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date page(s), volume-issue number(s), publisher, city and/or country where published.	
	B95	Moriceau et al., [Vol. 99-1] Meeting Abstract No. 405, "A New Characterization Process Used to Qualify SOI Films," <i>The 195th Meeting of The Electrochemical Society</i> , May 2-6, 1999, Seattle, Washington.
	B96	Pollentier et al., "Fabrication of High-Radiance LEDs by Epitaxial Lift-off" <i>SPIE</i> , Vol. 1361, 1990, pp. 1056-1062
	B97	Suzuki et al., "High-Speed and Low Power n <sup>+</sup> -p <sup>+</sup> Double-Gate SOI CMOS", <i>IEICE Trans. Electron.</i> , Vol. E78-C, No. 4, April 1995, pp. 360-367
	B98	Timoshenko, S., "Analysis of Bi-Metal Thermostats", <i>J. Opt. Soc. Am.</i> , 11, 1925, pp. 233-256
	B99	Tong et al., "Low Temperature Si Layer Splitting", <i>Proceedings 1997 IEEE International SOI Conference</i> , Oct. 1997, pgs. 126-127
	B100	Wong et al., "Integration of GaN Thin Films with Dissimilar Substrate Materials by Pd-In Metal Bonding and Laser Lift-off", <i>Journal of Electronic Materials</i> , Vol. 28, No. 12, 1999, pp. 1409-1413
	B101	Yun et al., "Fractional Implantation Area Effects on Patterned Ion-Cut Silicon Layer Transfer," Dept. of Electrical Eng. And Computer Sciences, University of California, Berkeley, CA 94720, USA, 1999 IEEE International SOI Conference, Oct. 1999, pg. 129-30
	B102	Yun et al., "Thermal and Mechanical Separations of Silicon Layers from Hydrogen Pattern-Implanted Wafers," <i>Journal of Electronic Materials</i> , Vol. No. 36, No. 8 2001

EXAMINER	DATE CONSIDERED
----------	-----------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.